

May 25, 2017

Robert Sepucha, Chair, Zoning Board of Appeals
Town of Concord
141 Keyes Road
Concord, MA 01742

Re: ITW Middlesex School Cell Town Application Filed 12-1-16

Dear Members of the Zoning Board of Appeals:

Thank you again, on behalf of Town residents of Bartkus Farm Road and Lowell Road, for your attention to our concerns regarding the proposed Industrial Tower & Wireless (ITW) relocation of wireless facilities to a new tower at the Middlesex School.

The proposal before you is not a typical cell tower application. You, and the Town, have been presented with a 'fait-accompli' single-site proposal, formulated by ITW together with the Middlesex School. This proposal conforms, by design, to the financial and aesthetic interests of the Middlesex School; those interests simply do not align with those of the Town or the local neighborhood.

It is our view that the Planning Board and Zoning Board of Appeals processes have seen little more than tortuous efforts by the applicant to 'force-fit' an ill-fitting site with our Town Zoning Bylaws. This has been characterized by rigid insistence on the single site, perfunctory dismissals of viable alternative sites, and troubling technical inaccuracies in submitted RF propagation maps and other measurements and claims.

We are confident that you will agree that the purpose of our Town's Bylaws and procedures is not simply to consecrate a business relationship between the Middlesex School and ITW, but rather to deliberately determine whether a coverage gap exists, and if so to ensure that the least burdensome and minimally intrusive solution prevails.

When the Bartkus Farm and Lowell Road communities were first notified as abutters of the proposed site, in autumn 2016, we took the initiative to reach out to the Middlesex School. Over a dozen letters were sent to the School outlining our concerns about the proximity of the proposed site to our homes before the application was submitted on December 1, 2016. In February, two months after the application was submitted, the Middlesex School invited us to meet on their campus. At that meeting, we were informed that the Middlesex School had already devoted substantial resources to the selected site, and that alternative sites were not to be considered unless the School was compelled to do so by the Town.

Indeed, as a neighborhood we have never been opposed to wireless facilities. Most of us resided on Bartkus Farm Road and Lowell Road when various antennas were placed on the smokestack

facility on campus over the years, and we did not object because the facility was located more than 1000' away and was of minimally intrusive height, in full compliance with the Zoning Bylaws. The proposed facility, in contrast, would subsume 14 abutter residences within the minimum 1000' setback distance mandated by the Bylaws, some by more than 400'. The proposed facility would also be widely visible from the neighborhood due to the proposed violation of the height Bylaw by more than 45'. This plainly represents a direct contravention of the explicit purpose and intent of the Zoning Bylaws by disregarding our visual, aesthetic, scenic and property value interests.

Of particular concern to us are the following Zoning Bylaws:

7.8.4.2(j)(ii), violation of prohibition of locating a facility within 1000' of residential homes (14 homes affected);

7.8.4.2(e), violation of prohibition of facility exceeding 20' above tree canopy (violated by at least 45' by the current proposal, exacerbated by removal of at least 34 of trees).

Indeed, the present proposal violates an exceptionally large number of Bylaws-- 7 distinct subsections of the General Requirements.¹ These include setback violations affecting 14 residences, tower height violations affecting the entire neighborhood, destruction of endangered wildlife habitat, and a fatally flawed and incomplete balloon test.

This need not be the case. We have identified multiple less-intrusive viable alternative sites in this letter, in accordance with Town Bylaw 7.8.4.6(c):

7.8.4.6(c), "[A special permit shall be issued under this section only if the Board shall find] that the proposed personal wireless communication facility site selected by the applicant minimizes adverse impacts on historic resources, scenic views (viewsheds) and residential property values by being located most distant from historic resources, scenic views (viewsheds) and single-family detached dwellings. (emphasis added)

We have also highlighted in this letter what we firmly believe are significant reasons, supported by substantial evidence, to deny the applicant's currently pending request for Special Permit.

¹ Please see our letter submitted to the Planning and Zoning Board of Appeals of March 30, 2017 for additional detail. The 7 violated Bylaws are: 7.8.4.2(e), 7.8.4.2(j)(ii), 7.8.4.2(j)(i), 7.8.4.2(j)(iii), 7.8.4.2(j)(vi), 7.8.4.2(p), 7.8.4.2(f).

1. The alleged gap in coverage is a self-manufactured one, precipitated by the Middlesex School's aesthetic preferences regarding a single campus building, the Music Center.²

As such, the purpose of the proposed facility is not to address a coverage gap, but rather to remediate a perceived aesthetic deficiency of a single Middlesex School building, and to do so at the expense of the interests of the Town and the neighbors. The abutters do not categorically oppose cell towers; we do however intensely object to being forced to surrender our interests and property values for the aesthetic inclinations and financial rent-seeking of the Middlesex School.

2. There exist multiple viable alternative sites that are less intrusive to the interests of the Town. We present 4 such sites here.

We have identified 4 viable alternative sites that violate neither the '1000-foot from residential structure' Bylaw (for any non-Middlesex School structure), nor the 'tower height relative to tree canopy' Bylaw. (In contrast, the proposed ITW tower violates both Zoning Bylaws egregiously.) These are listed in Table 1, with brief descriptions following, and additional detail in Exhibit A.

Table 1. Other viable alternative sites: Zoning characteristics of smokestack, current ITW proposal, and 4 alternative sites proposed by residents.

	Non-Middlesex single-family structures within 1000-feet	Tower height and tree canopy Bylaw	Elevation	Within Wireless Overlay District
ITW Proposal	14	Violated	188'	Yes
Current Smokestack	0	OK	194'	Yes
Site A-1	0	OK	198'	Yes
Site A-2	0	OK	186'	Yes
Site A-3	0	OK	184'	Yes
Site A-4	0	OK	220'	No

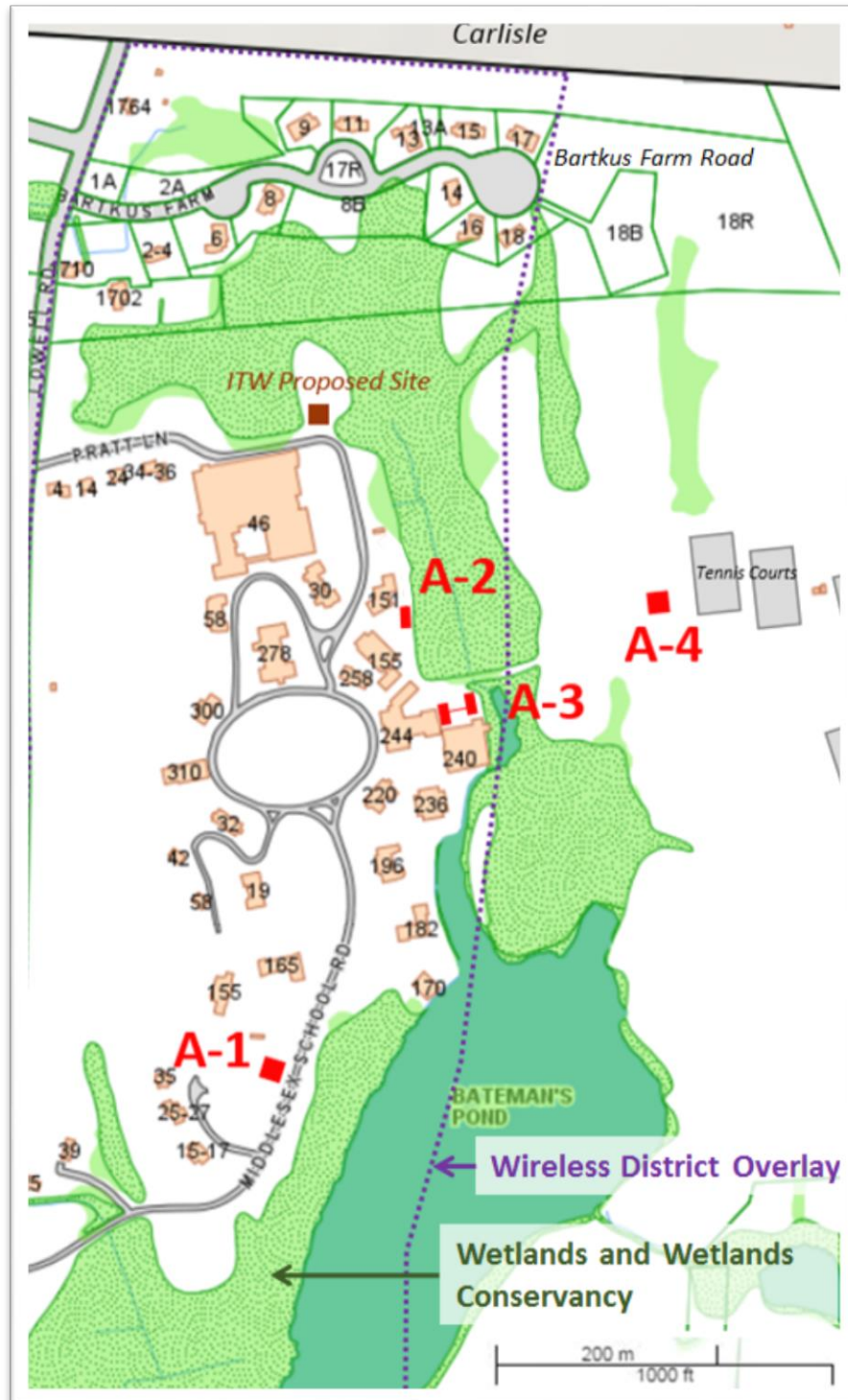
Single family structures within 1000' Bylaw: 7.8.4.2(j)(ii).

Tower height and tree canopy Bylaw: 7.8.4.2(e).

² The applicant and Middlesex School representatives have openly acknowledged this in Town proceedings, referring repeatedly to allegedly blighted views from the indoor 'garden' of the Music and Campus Center, and concerns about the architectural aesthetics of smokestack brickwork, as central motivations.

All 4 of our alternative sites are at elevations comparable to, or better than, that of the ITW-proposed site. We note that our identified sites are not intended to be a comprehensive listing of less intrusive alternative sites; indeed, we believe many more such alternative sites exist, but have restricted our presentation here for brevity.

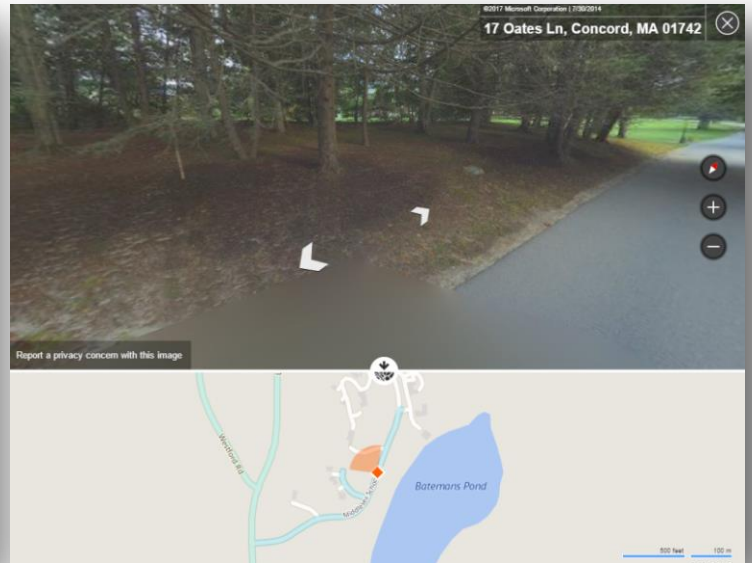
Figure 1. Locations of viable alternative sites A-1, A-2, A-3, and A-4.



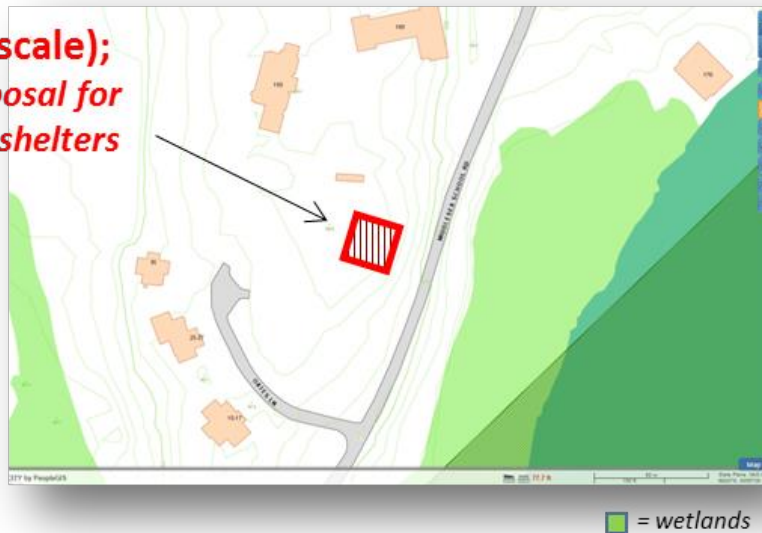
Site A-1. Oates Lane and Middlesex School Road. This site, located over 150' from the nearest wetlands boundary, is on a gentle hill, and would accommodate the entire 65' x 65' facility complex as proposed by ITW. The elevation is 10' higher than the currently proposed site, is directly accessible by existing roads, and would require minimal tree removal.

- No violations of 1000' setback from non-Middlesex homes
- No violation of height / tree canopy Bylaws
- Well outside 50' no-build line; minimal tree disturbance
- Minimal visibility from Lowell Road
- Ready access to utilities

Top left: Aerial view of site A-1. **Top right:** Street view facing northwest from Middlesex School Road, facing site. (bottom panel indicates orientation). **Bottom center:** Concord GIS view of site A-1, with 65' x 65' ITW facility added (to scale).



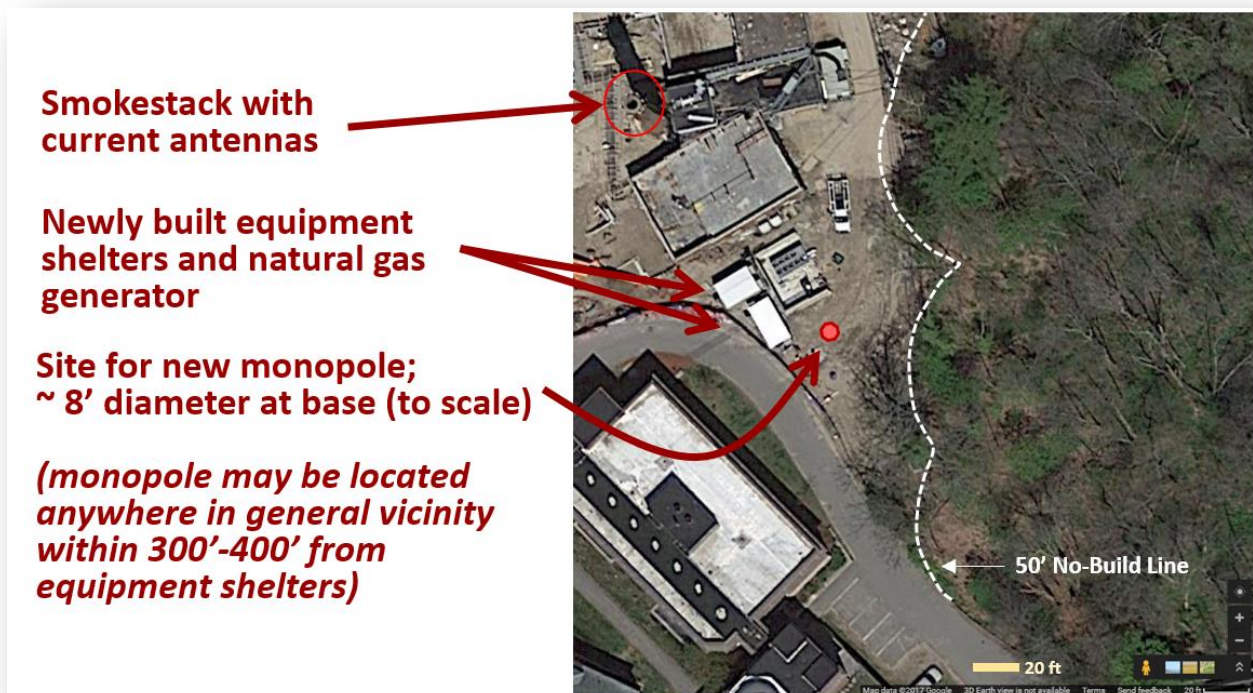
**65' x 65' (to scale);
Fits ITW's proposal for
all equipment shelters
and generator**



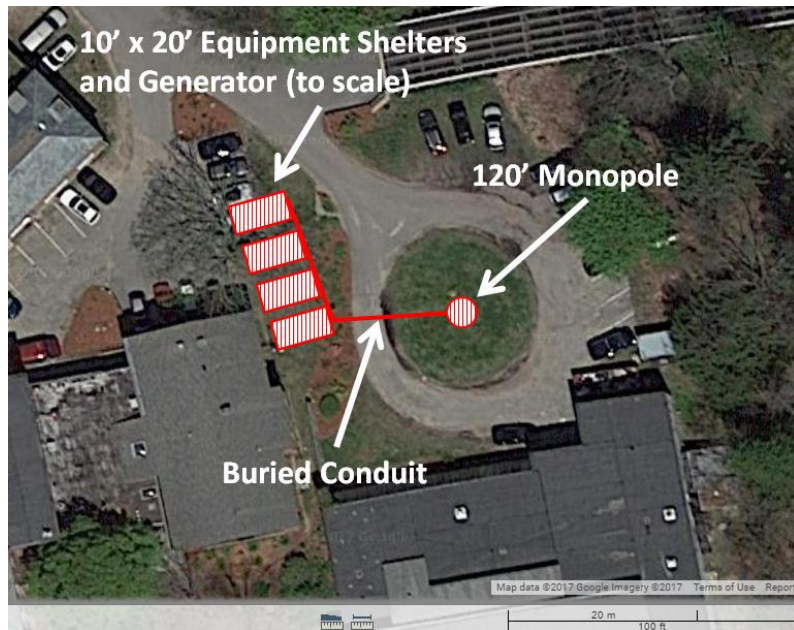
Site A-2, Adjacent to Existing Smokestack Building. In 2016, to accommodate renovation and construction at the smokestack building, the 3 carriers, AT&T, Verizon, and T-Mobile, moved their equipment and natural gas generators to the outside of the building immediately adjacent to the south side of the building. According to plans filed with the Town (Concord Building Permit # 16-99, 2/23/2016; Exhibit A), these new equipment shelters were connected to the antennas on the smokestack by underground cabling.

It would appear to be eminently reasonable to make this existing arrangement permanent, with the construction of the monopole tower in the near vicinity; the monopole would consist of a base that would be no more than 8'-10' in diameter. The RF coverage would be, by definition, nearly identical to that provided by the current smokestack, due to the proximity of the new site to the existing antennas. In addition, the monopole height would be able to be reduced to 90', which is the approximate height of the current highest antenna on the smokestack and a height that, again by definition, provides adequate RF coverage.

- AT&T/Verizon/T-Mobile equipment is already relocated to outside of building.
- No violations of 1000' setback from non-Middlesex homes
- No violation of height / tree canopy Bylaws
- Minimal or no tree disturbance
- Minimal visibility from Lowell Road
- Identical to existing arrangement; Only 90' tall monopole would be needed (present height) to maintain coverage, and could be camouflaged
- Additional detail in **Exhibit A**, including plans filed with the Town in 2016



Site A-3. East of Eliot Hall. This is a level area that would readily accommodate multiple 10' x 20' equipment shelters and natural gas generators, connected via buried conduit to a 120' monopole, as shown below. The area is more than 70' from the nearest wetland boundary (shown in green in middle plot).



Site A-4. East Fields. We have explicitly included this one alternative site that lies outside of the Town's current Wireless District overlay-- site 'A-4' at the Middlesex School's tennis courts ('East Fields')-- because this site is particularly well-suited for a wireless facility, due to its high elevation (220', which is 32-feet higher than the ITW-proposed site) and very large distance from any existing structures, and large area of already-removed trees. (We note that there is ample and clear case law indicating that the simple existence of an overlay district is not sufficient reason for an applicant to disregard an alternative site.³)

ITW has claimed that it would never be granted a variance to construct a facility at this location on the East Fields. Even if that were true, we have not recommended that they seek a variance, but that they work with the Town to place an article on the Town Warrant for the Overlay District to be expanded to include an area in the East Fields. The Overlay District was created in 1998 before Middlesex School clear-cut acres of trees for its tennis courts and athletic fields (see Figure below). Since the district's creation in 1998, the overlay district was expanded at Town Meeting in 2001, again in 2003 and once again modified in 2004. We understand that Middlesex School has access to approximately 50 acres (that are unencumbered by any private, deed, or conservation restrictions) for their athletic fields and will have access to 50 additional acres in 2027.

Figure. Alternative Site A-4.



³ A seminal court ruling reads: "...the town has not said as a categorical matter that it would never grant a variance outside the Overlay Zone. There is no credible claim of a blanket prohibition... Second Generation [the applicant] failed to show... that no other feasible sites existed **outside of the Overlay Zone** or that the ZBA would deny variances for such sites." Second Generation Properties, L.P. v. Town of Pelham, 313 F.3d. (emphasis added)

3. The applicant has failed to make the required ‘good faith effort’ to identify and evaluate less intrusive alternatives.

Relevant case law related to the federal Telecommunications Act of 1996 is clear in its requirement that applicants demonstrate that they have made a “good faith effort” to identify and evaluate less intrusive alternatives.⁴ The Town’s Bylaws are similarly clear, especially where applicant is seeking relief from general requirements (Bylaws 7.8.4.5 and 7.8.4.6). We believe it is obvious in this instance that the applicant has not made such a good-faith effort.

For example:

1. The applicant has, inappropriately and perfunctorily, excluded from consideration all "open space" on the Middlesex School campus, even though the Middlesex School is the sole financial beneficiary of the facility site.⁵ There plainly exist multiple viable alternative sites within open space on the Middlesex School campus that are less intrusive upon the interests of the Town and its residents. In fact, the Zoning Bylaws compel the applicant to consider such “open area” sites, in 7.8.4.1(e).
2. Similarly, the applicant has inappropriately failed to consider sites on the Middlesex School campus outside of the wireless overlay district; The School owns approximately 50 acres east of the main campus that are unencumbered by any private, deed, or conservation restrictions, and where the School has already constructed tennis courts and athletic fields. The Town has never indicated that wireless overlay district variances would be denied.³
3. Even though the alleged “coverage gap” cited by the applicant covers 3 towns—Acton, Carlisle and Concord -- and is geographically centered where the 3 towns meet (see Figure below) -- there is no evidence that the applicant has made any good-faith effort to identify and evaluate obvious less intrusive alternative sites for a new tower in southern Carlisle or eastern Acton.

⁴ “...the provider applicant must also show that the manner in which it proposes to fill the significant gap in service is the least intrusive on the values that the denial sought to serve. **This will require a showing that a good faith effort has been made** to identify and evaluate less intrusive alternatives, **e.g., that the provider has considered less sensitive sites**, alternative system designs, alternative tower designs, placement of antennae on existing structures, etc.” APT Pittsburgh Ltd. v. Penn Township, 196 F.3d. (emphasis added)

⁵ The applicant states: “[A]ll of the open space area on Middlesex's main campus on the east side of Lowell Road has been excluded from the tower site selection process... A tower would interfere with [curricular and co-curricular programming] existing uses.” ITW Memo to ZBA dated May 8, 2017.

Figure. Area of alleged coverage gap, from applicant's submission of 12/1/2016. Note that the proposed site is located at the edge of the area.



4. The applicant has failed to consider emulating Sprint's successful coverage strategy.

Sprint provides robust and satisfactory coverage to the area where the applicant claims that a coverage gap exists, as repeatedly confirmed by professional external surveys and shown in **Exhibit B**. Yet Sprint does not have antenna facilities at the Middlesex School smokestack site. For unknown reasons, the three carriers represented by the applicant, namely AT&T, T-Mobile, and Verizon, have provided only their own carrier-specific lists of existing sites, and did not consider those of Sprint. This represents a remarkable omission. It is in plain and direct contravention of Bylaw 7.8.4.1(b), and of common sense.⁶ We believe that any reasonable observer would find that an obviously viable alternative for other wireless carriers would be to mirror the successful antenna arrangements of Sprint.

⁶ 7.8.4.1(b): "The applicant shall provide written documentation that they have examined all personal wireless communication facility sites located in the town and in abutting towns in which the applicant has no legal or equitable interest to determine whether those existing facility sites can be used to provide adequate coverage and/or adequate capacity." The applicant has failed to examine all such sites.

5. The applicant has relied on unreliable and flawed technical data to inappropriately dismiss viable alternative sites.

We demonstrated at the May 11, 2016 ZBA meeting that the applicant has submitted to the Town technical RF coverage maps ('RF propagation study results') that are not able to be reproduced by the applicant itself, and are therefore by definition flawed and unreliable; we include them here as **Exhibit C**, for the record. These RF coverage analyses are based on computer modeling, and as such should be 100% reproducible; the applicant's maps however show a 10-20% discordance and, troublingly, the error consistently favors the applicant's contextual argument.

This technical inability to prepare accurate RF coverage maps is gravely troubling: it calls into doubt any and all of the claims made by the applicant related to the dismissal of otherwise viable alternative sites, or indeed of any alleged coverage gap. Such irreproducible RF coverage maps were inappropriately used to dismiss an alternative site in the applicant's memo to the ZBA of May 8, 2017; specifically, applicant's 'Site C' was improperly rejected on flawed RF coverage grounds.

Regardless of whether the applicant is afflicted with methodological flaws, software errors, or other faults that yield these irreproducible RF coverage maps, the present application should be denied until the applicant can demonstrate to the satisfaction of the Town that all such technical anomalies have been adequately remedied.

6. The applicant's balloon test was fatally flawed and cannot be relied upon.

The applicant's balloon test of December 30, 2016 was a failed test and violated multiple provisions of Zoning Bylaw 7.8.4.2(p); we note that this Bylaw is not subject to relief.

As applicant admits (see 'Affidavit of Mark Thibeault', crane operator, dated 2/28/2016, submitted by applicant), the test designed and implemented by the applicant failed to place the balloon at the actual site of the proposed monopole; rather, the balloon was placed 110' away horizontally from the actual site (for a 120' tall proposed tower). This directly contravenes Bylaw 7.8.4.2(p) ("...the applicant shall arrange to fly... [a] brightly colored balloon at the maximum height and at the location of the proposed tower" (emphasis added)).

In addition, the balloon was not flown for at least 5 consecutive hours, as required ("The balloon shall be flown for at least five consecutive hours between 7:00 a.m. and 5:00 p.m. on the date(s) chosen.") Rather, a first balloon ruptured after approximately one hour, and a second balloon was subsequently flown only for less than one hour before it, too, ruptured.

The actual visual impact of the proposed facility remains unknown to this day, in contravention of Zoning Bylaw 7.8.4.2(p). (Please refer to our letter of January 2, 2017 on this matter for additional detail and photographic evidence.)

Figure. Photograph from applicant's submitted crane/balloon test documentation of December 30, 2016, illustrating failure to position balloon over the proposed site; balloon is sited at least 110' to the south.



7. The current proposal will adversely impact property values.

In the March 10, 2017 report by the Concord Town Planner on the pending application, a one-line email from the Town Assessor was invoked to assert that there would be no impact on Concord home values based on proximity to cell towers.⁷

Asked by abutters for clarification, the Town Assessor identified a single example: “As an example 722 Annursnac Hill Road sold December 2, 2016 for \$902,250 and our assessment was \$834,400. We had made no adjustment for the tower and the property sold for more than our assessed value... When sales have occurred in the past a similar ratio has been present.”

However, inspecting sales data from 2016 contradicts this assertion: two of the three home sales on Annursnac Hill Road that closed in 2016 sold for less than their assessed value.

⁷ “The Town Assessor has stated that the Assessing Department currently sees no reduction in value due to close proximity of cell towers.” Town Planner report of March 10, 2017, citing a one-line email from Town Assessor.

Table. 2016 Property Sale Prices and Assessment Values on Annursnac Hill.

Address	Date Sold	Sale Price	Assessed Value	Distance from Cell Tower	Sales vs Assessment
722 Annursnac Hill Road	12/2/2016	\$902,000	\$834,000	450 feet	8% More
275 Annursnac Hill Road	11/14/2016	\$950,000	\$1,146,000	1000 feet	8% Less
466 Annursnac Hill Road	7/1/2016	\$750,000	\$801,000	360 feet	6% Less

As such, either the assumption linking assessed value, sale price, and cell tower proximity is flawed, or the data actually show a negative impact on house value from cell tower proximity. Either way, we do not believe the purpose and intent of the Town Bylaws, as embodied in Bylaw 7.8.1 on the protection of property values, has been upheld.

8. The applicant's likening of their proposed site to other existing wireless facilities in Concord is inappropriate.

The applicant has stated that they believe that the Zoning Bylaw requiring a 1,000 foot distance between a wireless facility and single family homes should be waived because other areas of Concord are characterized by shorter distances. This is a misleading argument. Every neighborhood in Concord is unique, and what may be suitable in one area will not be in another. Indeed, rendering such decisions is the remit of the Zoning Board of Appeals.

The wireless facilities on 200 Baker Avenue (located next to an office park on the opposite side of Route 2 from the closet neighborhood) and Cambridge Turnpike (located by the gas station on Route 2) are of a completely different design, and are substantially shorter in height than the applicant's proposed facility. The negative visual impacts have been reduced because both have been designed to look like white flagpoles, which most people do not even recognize as wireless facilities. In addition, 200 Baker Avenue is in an 'Industrial Park A' zone, and 22 Cambridge Turnpike is in a dense 'Residence Zone A' district, whereas the currently proposed site is in a significantly less dense neighborhood.

While the tower on Annursnac Hill may seem of similar design as the proposed tower, it is located on municipal land, which is ranked second in the Zoning Bylaws in the order of preference for siting a cell tower. The visual impact is also minimized due to the hilly topography of that area; when one approaches the Annursnac Hill neighborhood, the tower is not visible because it is located on the opposite side of the hill.

In conclusion, we are firm in our conviction that the Zoning Bylaws are very clear that a project such as the one proposed is required to provide a *minimally intrusive* viable means of reducing or eliminating any purported gap in coverage *without substantial detriment to the neighborhood* and without contradicting the intent and purpose of the Bylaw. The current proposal fails on all counts. We believe that we have demonstrated this in the arguments presented in this letter, and in our previous communications with the Town on this matter.

We respectfully request that the Town Zoning Board of Appeals deny the applicant's pending request for Special Permit.

Sincerely,

Town Residents of Bartkus Farm and Lowell Road

Aram Adourian and Anna Ohanyan (#11)

Bin Weng and Kun Liu Weng (#8)

Stuart and Laura Strong (#16)

Suzanne and Rob Mirak (#6)

Ignacio and Rosie Garcia (#17)

Catherine McNulty (1679 Lowell Road)

Lisa Hansel (#14)

A.J. and Sheila Sohn (#15)

Anil and Hina Shah (#17)

Dan and Julie del Sobral (#18)

Scott Li and Shirley Ao (#9)

Ron and Sue Kwon (1702 Lowell Road)

Site A-2

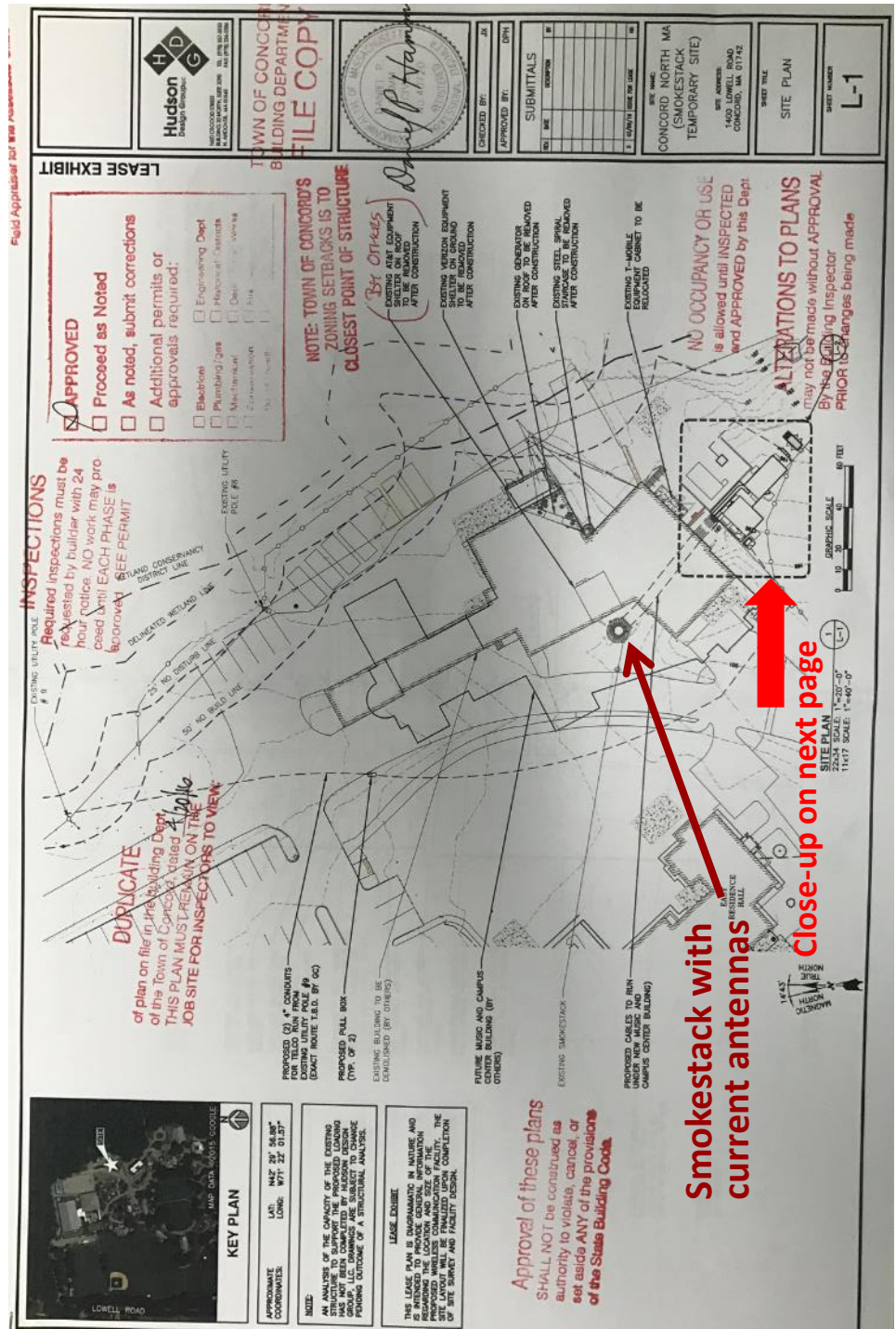
Features:

- AT&T/Verizon/T-Mobile equipment is already relocated to outside of bldg.
- No violations of 1000' setback and height/tree canopy Bylaws
- Well within 50' no-build line; minimal tree disturbance
- Minimal visibility from Lowell Road
- Identical to existing arrangement; Only 90' tall monopole needed (present height) to maintain coverage

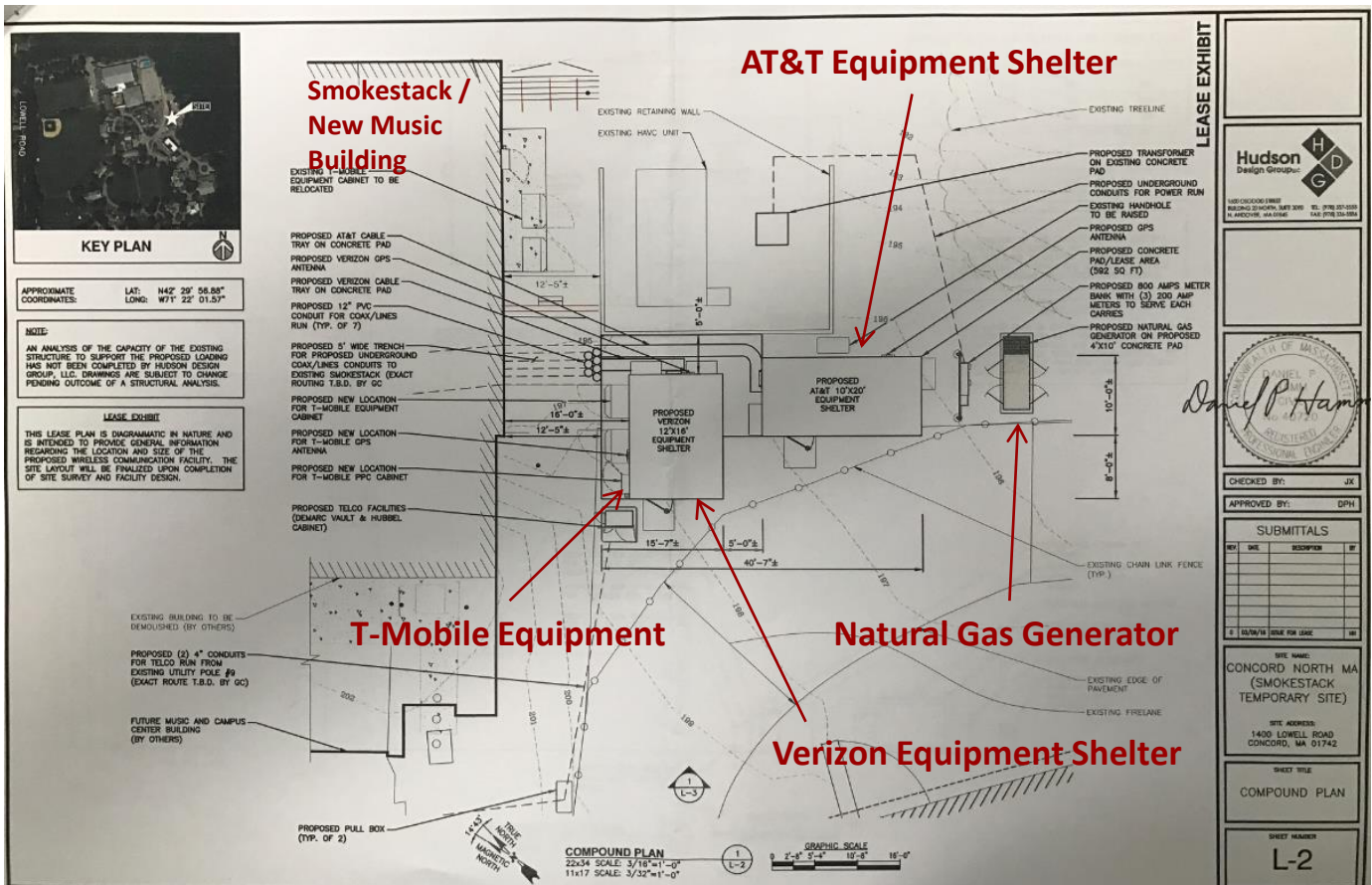


These are the plans presented to Town under which AT&T, Verizon and T-Mobile have already built new equipment shelters and gas generator adjacent to the new Music Building, in Spring 2016.

Antennas on smokestack were connected to new equipment shelters via underground cabling, as shown.



Site A-2 (cont'd)

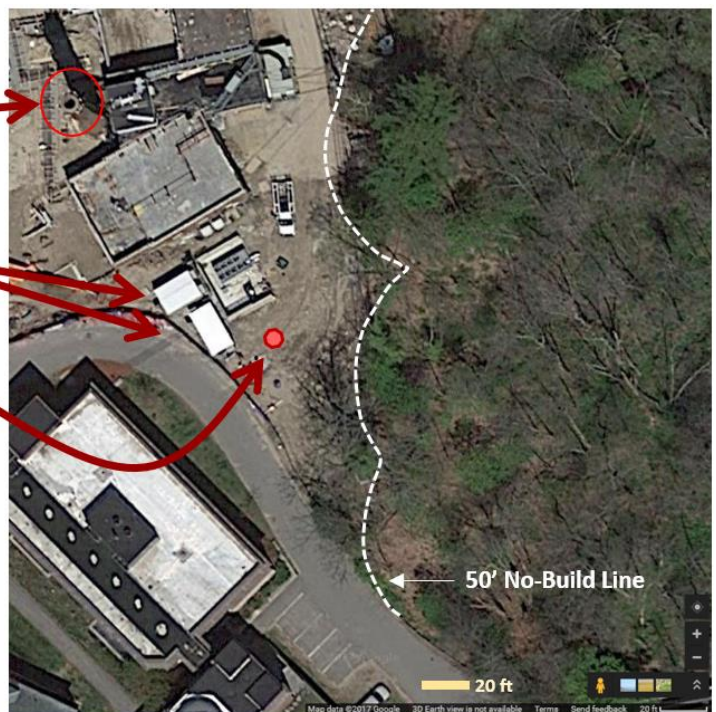


Smokestack with current antennas

Newly built equipment shelters and natural gas generator

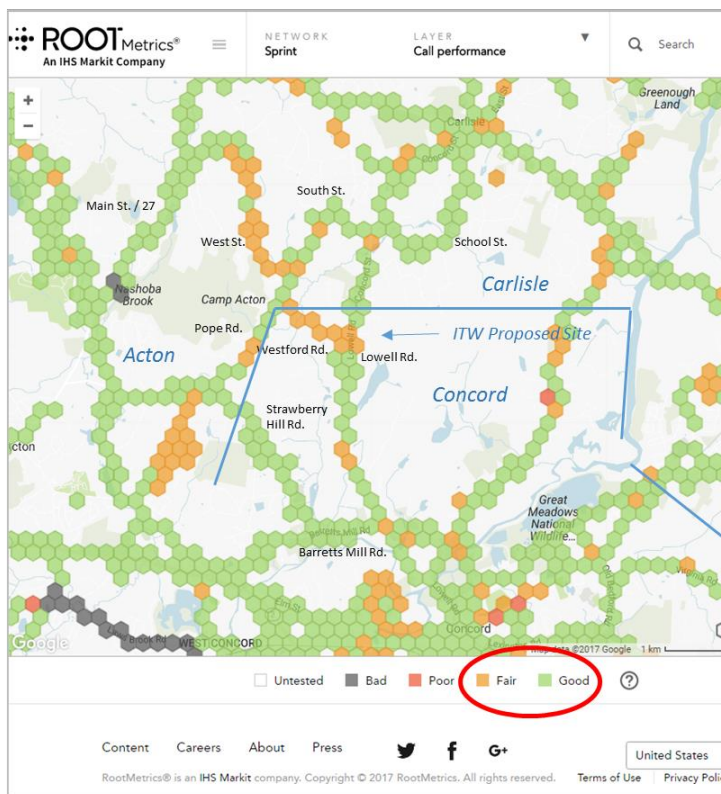
Site for new monopole; ~ 8' diameter at base (to scale)

(monopole may be located anywhere in general vicinity within 300'-400' from equipment shelters)



Sprint currently provides adequate coverage using existing facilities without smokestack

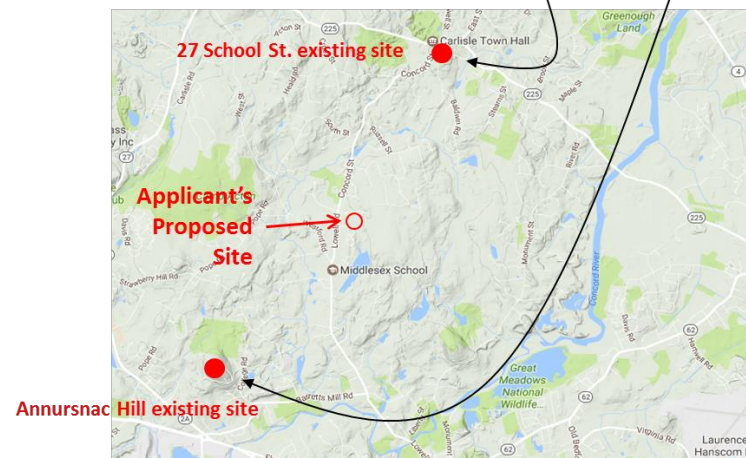
Figure: Sprint coverage in area of alleged “coverage gap” is very adequate.



Coverage map data is from Rootmetrix/IHS Inc., a professional global wireless coverage data source provider for the wireless industry, and is based on actual user coverage (not computer modeling).

How Does Sprint Do It?

Sprint uses existing facilities here, and here.



Q: But surely, since that works, AT&T, Verizon and T-Mobile considered doing the same thing? (As required by Bylaw 7.8.4.1(b))

A: No. A close look at the carriers' 'alternate site analysis' reveals that each carrier only considered either one or the other of the two sites in the map above (filled red dots), but never both. *See next page.*

'Alternate Sites Considered' List, from 12/1/2016 Submission, Tab 3

Verizon's List

6. The following table details site specific information of the surrounding Verizon Wireless telecommunications facilities used to generate the coverage plots attached hereto.

Site Name:	Latitude:	Longitude:	Street Address:	City:	Structure Type:	Antenna Centerline Height (AGL):	Status:
Acton South	42.4462	-71.4271	36 Knox Trail	Acton	Monopole	148	On-Air
N Acton	42.5315	-71.4040	982 Main Street	Acton	Monopole	129	On-Air
Acton	42.4683	-71.4543	Main Street	Acton	Lattice	142	On-Air
Acton 2	42.4898	-71.4248	5 Post Office Square	Acton	Flagpole	131	On-Air
Bedford	42.4837	-71.2958	216 Concord Road	Bedford	Monopole	102	On-Air
Bedford N	42.5118	-71.2465	Crosby Drive	Bedford	Water Tank	110	On-Air
Bedford 4	42.4914	-71.2798	75 Great Road	Bedford	Steeple	77	On-Air (October)
Billerica Msc	42.5665	-71.3236	38 Sullivan Road	Billerica	Lattice	176	On-Air
Billerica 3	42.5355	-71.2801	600 Technology Park Drive	Billerica	Lattice	142.5	On-Air
Billerica Winning Pond	42.5595	-71.3038	20 Republic Road	Billerica	Monopole	102	On-Air
Boxborough 2	42.5013	-71.4783	90 Central St	Boxborough	Monopole	90	On-Air
Carlisle	42.5182	-71.3165	871 Bedford Road	Carlisle	Unipole	146	On-Air
Chelmsford 4	42.5957	-71.3685	495-N Rest Stop	Chelmsford	Monopole	97	On-Air
Chelmsford S	42.5845	-71.3900	13 Kidder Road	Chelmsford	Monopole	100	On-Air
Concord Center	42.4725	-71.3361	509 Bedford Street	Concord	Unipole	90	On-Air
Concord 3	42.4774	-71.3949	40Y Annursnac Hill Road	Concord	Monopole	118	On-Air
Concord	42.4515	-71.3759	133 Old Road to Nine Acres Corner-Emerson Hospital	Concord	Monopole	87	On-Air
Lexington N	42.4723	-71.2553	40 Hartwell Avenue	Lexington	Stealth Monopole	100	On-Air
Concord 2	42.4462	-71.3183	23 Cambridge Turnpike	Lincoln	Lattice	80	On-Air
Littleton	42.5242	-71.4625	Newton Road	Littleton	Lattice	120	On-Air
Westford 2	42.5411	-71.4489	79 Powers Road	Westford	Lattice	99	On-Air
Westford	42.5719	-71.4192	8 Nixon Road	Westford	Monopole	130	On-Air

Verizon considers Annursnac Hill, but not 27 School St.!

T-Mobile's List

T-Mobile Surrounding Sites		
Site ID	Address	Site Type
4BS0459E	509 Bedford Street, Concord, MA	Flagpole
4BS0293E	200 Baker Avenue, Concord, MA	Flagpole
4BN1188A	54 Hosmer Street, Acton, MA	Steeple
4DEB478F	533 Main Street, Acton, MA	Flagpole
4BS0634A	485 Great Road, Acton, MA	Rooftop
4DEB477A	982-988 Main Street, Acton, MA	Monopole
4BSM641A	12 Monument Square, Concord, MA	Steeple
4BN0268B	102 Waterford Street, Carlisle, MA	Monopole
4BS0290G	27 School Street, Carlisle, MA	Steeple
4BS0291H	871 Bedford Road, Carlisle, MA	Flagpole
4BN0273A	216 Concord Road, Bedford, MA	Monopole

T-Mobile considers 27 School St., but not Annursnac Hill!

AT&T's List

5. Alternative Site Analysis

AT&T has been unable to identify any existing or approved wireless facility or other suitable existing or approved structure, building or tower in the specified search area of Concord from which to address the significant coverage gaps. The proposed Facility at Middlesex School will provide optimum coverage for AT&T's network. Additionally, extending or modifying the surrounding sites, as listed below, will not provide the necessary coverage (both voice & data) to the Targeted Coverage Area further justifying the need for the proposed Facility.

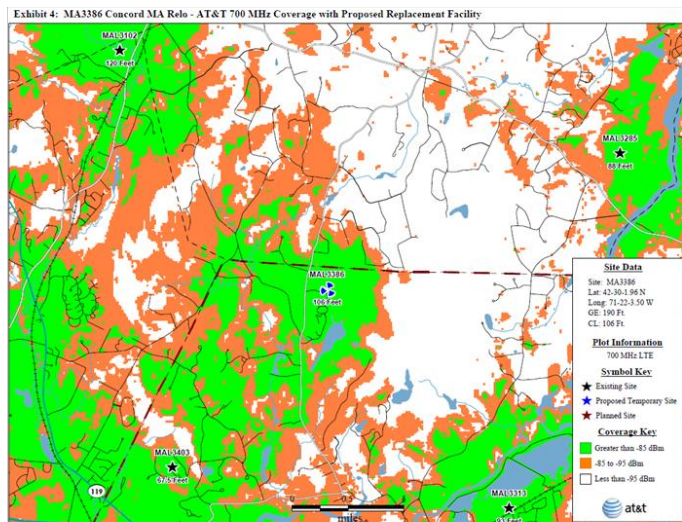
Site ID	Address	Site Type	Lat/Long
MA3386	1400 Lowell Road, Concord, MA	Smokestack	(42.4994, -71.3665)
MA3102	982 Main Street, Acton, MA	Monopole	(42.5315, -71.4039)
MA3285	871 Bedford Road, Carlisle, MA	Unipole	(42.5182, -71.3164)
MA3152	216 Concord Road, Bedford, MA	Monopole	(42.4837, -71.2958)
MA3313	509 Bedford Street, Concord, MA	Unipole	(42.4723, -71.336)
MA3403	40 Yannursnac Hill Road, Concord, MA	Lattice	(42.4775, -71.3947)

AT&T considers Annursnac Hill, but not 27 School St.!

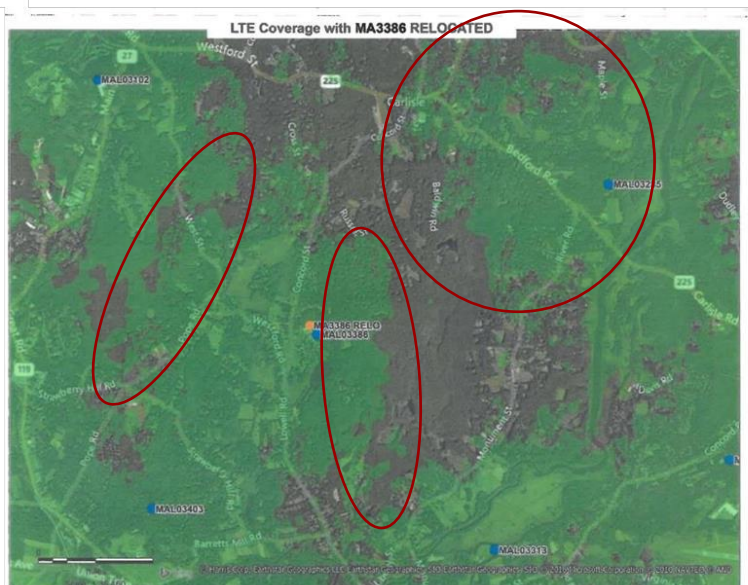
- These 2 “Coverage Maps” submitted by applicant **should be identical**, because they both purport to show AT&T coverage with the currently proposed site.
- They differ by at least 10-20%. See next page for comparison.
- This technical inability to prepare accurate RF coverage maps is gravely troubling, because it calls into doubt any and all of the claims made by the applicant related to the dismissal of otherwise viable alternative sites.



“Coverage Map” submitted 5/8/2017



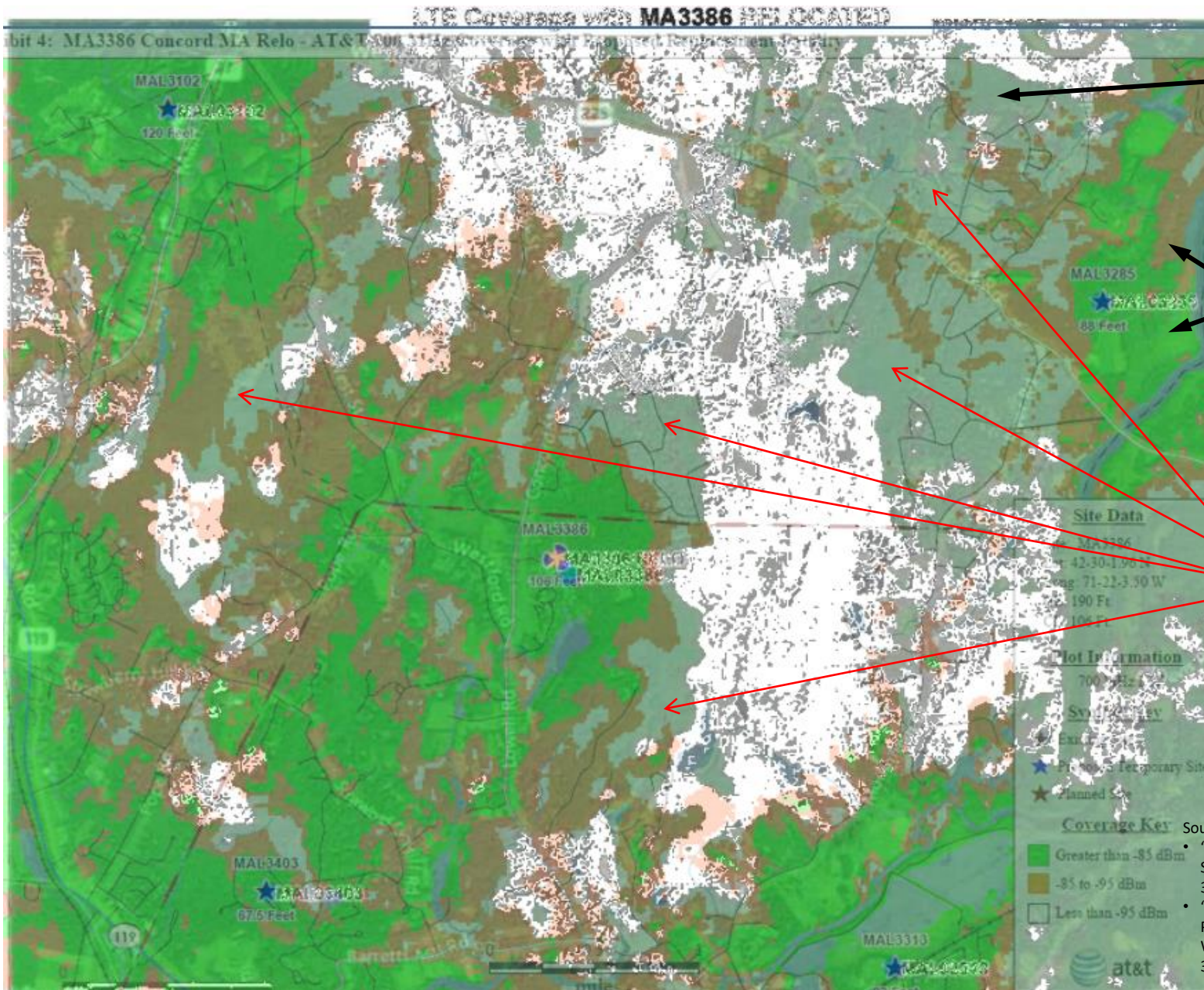
“Coverage Map” submitted 12/1/2016



Areas of
 significant
 discordance
 circled

"Coverage Map" of 12/1/2016 vs. "Coverage Map" of 5/8/2017

-- These should be identical...



As submitted on Dec 1, 2016

As submitted on May 8, 2017

Areas of significant discordance

- Sources:
- "Application for Special Permit and Site Plan Review." Dec. 1, 2016. Tab 3 Page 16.
 - "Memorandum in Support of Petition of Industrial Tower and Wireless LLC." May 8, 2017. Exhibit 3.